P.O. Box 808, L-227 Livermore, CA 94551

# Andréa E. Schmidt

schmidt36@llnl.gov (925)423-9636

#### **Education**

#### Massachusetts Institute of Technology (MIT)

• Ph.D., Department of Physics

# University of California, Berkeley

- B.A., Department of Physics, Highest Honors
- Recipient of 2004 Department of Physics Citation Award

# Cambridge, MA May 2011

5/2011-present

Berkeley, CA May 2004

# Work Experience

## Lawrence Livermore National Laboratory (Livermore, CA), Postdoctoral Researcher

- Modeled usage of conventional generation, demand response, and storage, under a 33% renewable portfolio standard mandate for the California Energy Commission
- Worked with team to integrate atmospheric modeling of renewable generation into unit commitment model
- Used unit commitment software PLEXOS and mixed-integer program (MIP) solver to provide a framework for grid operation decision making under uncertain forecasts
- Presented grid optimization work to multiple CPUC and CEC commissioners, CPUC staff, executives at the 3 California investor-owned utilities, and to the California independent system operator (CAISO) staff

### MIT Plasma Science and Fusion Center (Cambridge, MA), Research Assistant

2004-2011

- Studied electron transport in prototype nuclear fusion reactor in pursuit of sustainable energy source
- Maintained, upgraded, and routinely collected data from x-ray camera
- Developed model to infer electron transport properties in fusion plasmas from x-ray measurements
- Ran, modified, and iterated between two multi-module codes to simulate a variety of plasma scenarios
- Worked with code developers to benchmark software against experimental data and competing codes
- Managed and analyzed over 1 TB of x-ray data, shared by research team of 100 scientists and engineers
- Met with Congressional staff in Washington, D.C. to lobby for \$300M annual fusion budget
- Led outreach activities to educate public about fusion and fusion research
- Co-authored 6 refereed papers, presented at 6 conferences

#### **UC Berkeley Department of Physics** (Berkeley, CA), *Undergraduate Research Assistant*

2002-2004

- Wrote software to model magnetic fields inside anti-hydrogen trap
- Co-authored paper, presented at 3 conferences

#### Lawrence Berkeley National Laboratory (Berkeley, CA), Intern

Summer 2001

- Measured magnetic field angle errors in superconducting magnets for the Advanced Light Source
- Successful completion of project resulted in 3 new hard x-ray beam lines for facility

#### **Presentations**

"Automated Demand Response and Storage for Renewable Integration," presented to the California Independent System Operator (CAISO), October 25, 2012; presented to the California Public Utilities Commission, October 5, 2012; presented to Pacific Gas & Electric, Southern California Edison, and San Diego Gas and Electric, September 11, 2012.

"Analysis of Renewable Generation Systems Using PLEXOS," Current Challenges in Computing conference in Napa, CA, August 22-24, 2011.

#### Reports

"Comparison of CAISO-run PLEXOS output with LLNL-run PLEXOS output," A. Schmidt, C. Meyers, S. Smith, January 2012.

"Observation on the Optimality Tolerance in the CAISO 33% RPS Model," Y. Yao, C. Meyers, **A. Schmidt**, S. Smith, F. Streitz. September 2011.